Surgical Termination of Pregnancy: Evaluation of 14,903 Cases

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SUMMARY

Objective: To evaluate the demographic and clinical characteristics of patients who underwent surgical termination of pregnancy and to assess the efficacy of the termination methods.

Materials and Methods: This retrospective study was carried out on 14,903 healthy women who had intrauterine pregnancy of ≤ 10 weeks of gestation as determined by transvaginal ultrasonography. All patients underwent either suction curettage (SC) with dilatation or SC only. Family planning counseling was given to all patients before the procedure and subjects were evaluated for any complications after the procedure.

Results: SC with dilatation was performed in 43.2% of patients and SC only was performed in 56.8%. Mean age was 31 ± 4.3 years. Only 5% of cases were primigravidas and 87% had formal education; 91% had one or more surgical abortions for previous pregnancies. Before the procedure, 67% were using coitus interruptus, 10% condom, 6% intrauterine device, 5% vaginal lavage, and 3% oral contraceptives as the contraceptive method, and 9% did not use any contraception. Infection, excessive bleeding, retention of fetoplacental material and uterine perforation were reported as complications of the procedure. After the procedure and following family planning counseling, 92% began to use an efficient, modern contraceptive method.

Conclusion: This study points out that surgical abortion is not a contraceptive method. Most surgical abortions can be prevented by effective usage of modern contraceptive methods. The importance of well-planned contraceptive counseling and education is emphasized. Better family planning counseling and education, and the availability of modern contraceptive methods can easily decrease the incidence of surgical abortions. [*Taiwanese J Obstet Gynecol* 2006;45(3):221–224]

Key Words: suction curettage only, suction curettage with dilatation, surgical termination

Introduction

Pregnancy and pregnancy termination are probably the most important health risk factors that women face during their reproductive years in undeveloped and developing societies. As the transition from an undeveloped to a developing society occurs, the risks of childbirth begin to decrease. However, more women and clinicians face the risks associated with increased numbers of induced abortion [1,2].

The extent to which women utilize abortion varies greatly throughout the world. In particular, this is due to the laws related to pregnancy termination. Many other factors influence the decision made by women, who are faced with an unwanted pregnancy, and by the medical care facility, providing health care to her [1].

The aim of this study was to evaluate the demographic and clinical characteristics of the patients who had surgical termination of pregnancy and to assess the efficacy of the termination methods.

Materials and Methods

This clinical study was carried out on 14,903 healthy women who were admitted to the Family Planning

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Accepted: May 13, 2006

Department of Zekai Tahir Burak Women's Health Care Research and Education Hospital in Ankara, Turkey, for surgical termination of pregnancy between June 1996 and December 2002.

The medical files of all subjects who underwent surgical evacuation of the uterus were evaluated retrospectively. All subjects were counseled with regard to the technical aspects and potential risks of the procedure. Written informed consent was obtained from each subject before surgical termination of pregnancy. Initial laboratory evaluation included a quantitative serum β-human chorionic gonadotropin titer, complete blood count and Rhesus blood type tests. All subjects underwent transvaginal ultrasonography to confirm an intrauterine pregnancy of ≤ 10 weeks of gestation.

Exclusion criteria were: inability to confirm an intrauterine pregnancy of ≤ 10 weeks of gestation; hemoglobin ≤ 10 g/dL; unstable vital signs of infection; and a maternal history of severe systemic diseases. Demographic and clinical characteristics, obstetric and contraceptive data of the subjects, and complications of the procedures (such as infection, excessive bleeding, retention of fetoplacental material, perforation, persistent fever, hemorrhage requiring transfusion, unintended major surgery, maternal mortality) were carefully recorded.

Subjects who presented for surgical abortion underwent suction curettage (SC) with dilatation or SC only. For < 8 weeks of gestation, we used SC only, but for pregnancies of ≥ 8 weeks of gestation, we used SC with dilatation. The SC only procedure was performed in the lithotomy position, and followed the use of Hibitane in water as an antiseptic solution, and insertion of a sterile speculum. The anterior lip of the cervix was held with a tenaculum and a Karman cannula was inserted into the cervix and connected to a self-locking Karman syringe. The plunger of the syringe was pulled to create a negative pressure, and the syringe was rotated 360° inside the uterine cavity. When a gritting sensation was felt, the cannula was removed and the contents of the uterus decanted. Finally, the suction procedure was repeated to ensure that no products of conception remained in the uterine cavity.

SC with dilatation was performed as an alternative to SC only. First, the uterine cavity was examined by ultrasound to determine its size and to confirm the position determined from examination under local anesthesia in the lithotomy position. Following the use of antiseptic solution, a sterile speculum was inserted. The anterior lip of the cervix was held with a tenaculum and then the cervical canal was dilated with Hegar dilators. A dilatation to 8 or 9 mm by a Hegar dilator is usually sufficient. The anterior lip of the cervix was held with a tenaculum and a Karman cannula was inserted into the cervix and connected to a self-locking Karman syringe. A uterine "cry", vibrations felt in the hand holding the cannula, is often used as a sign of adequate tissue removal. Accordingly, SC only is generally preferred over SC with dilatation for carrying out first-trimester termination procedures. All patients were carefully inspected and evaluated in the first hour and the first week after the procedure in case of any complications. Family planning counseling was given to all women before each procedure.

Data were validated and statistical analysis performed using SPSS version 11.0 (SPSS Inc., Chicago, IL, USA). A *p* value of less than 0.05 was considered to be statistically significant.

Results

Demographic characteristics of the subjects are shown in Table 1. SC with dilatation was performed in 6,978 (43.2%) women and SC only was performed in 7,925 (56.8%). Maternal age ranged from 18 to 39 years (mean, 31 ± 4.3 years). Five percent were primigravida and 87% had formal education.

Surgical abortion had been performed during previous pregnancies in 91% (13,562) of patients. Of the patients who underwent surgical abortion in previous pregnancies, more than five surgical terminations were performed in 5% (746) of cases. Forty-one percent (6,110) underwent previous surgical abortion only once.

The gestational age at termination ranged from 5 to 10 weeks (mean, 6.7 ± 2.1 weeks). The distribution of subjects according to gestational week at termination was as follows: 5–6 weeks of pregnancy in 55% (8,197), 7–8 weeks in 32% (4,769) and 9–10 weeks in 13% (1,937).

When the parturients were validated with regard to previous pregnancies, pregnancies resulted in a live birth in 60% of cases, and surgical abortion was performed in 37%.

Previous usage of contraceptive methods is shown in Table 2. The contraceptive methods used 3 months before the termination were as follows: coitus interruptus in 67%, condoms in 10%, oral hormonal contraceptives used inappropriately in 3%, vaginal lavage in 5% and intrauterine devices (IUD) in 6%, and no method of contraception was recorded in 9%.

After the surgical termination of pregnancy, the contraceptive methods chosen by the women were: IUD in

Table 1. Demographic characteristics of subjects*

Mean age (yr)	31 ± 4.3
< 20	596 (4)
20–29	7,004 (47)
30–39	7,303 (49)
Gravida	
1	745 (5)
2–4	7,303 (49)
≥ 5	6,855 (46)
Surgical abortion in previous pregnancies	13,562 (91)
1	6,110 (41)
2–4	6,706 (45)
≥ 5	746 (5)
Education	
Illiterate	1,937 (13)
Elementary	9,091 (61)
High school	2,981 (20)
University	894 (6)
Gestational age at termination (wk)	6.7 ± 2.1
5–6	8,197 (55)
7–8	4,769 (32)
9–10	1,937 (13)

**Data are presented as mean ± standard deviation or n (%).*

Table 2. Previous usage of contraceptive methods

Previous contraceptive method	*n* (%)
Coitus interruptus	9,985 (67)
Condom	1,490 (10)
Oral contraceptive	448 (3)
Vaginal lavage	745 (5)
Intrauterine device	894 (6)
None	1,341 (9)

35%, long-acting hormone injections in 26%, condoms in 14%, oral contraceptive in 10%, tubal ligation in 2% and subcutaneous implants in 5% (Table 3).

Complications were also recorded (Table 4). Perforation was recorded in only seven cases (0.05%). Five subjects were followed-up without any intervention. In two patients, curettage was performed under laparoscopic guidance without any postoperative problems. Retention of fetoplacental material was observed in 2.7% of cases who underwent SC only and in 2% who underwent SC with dilatation. SC with dilatation was performed successfully in these cases without any other intervention.

Table 3. Current usage of contraceptive methods

Current contraceptive method	*n* (%)
Intrauterine device	5,216 (35)
Long-acting hormone injection	3,874 (26)
Oral contraceptive	1,490 (10)
Condom	2,086 (14)
Subcutaneous implant	745 (5)
Tubal ligation	298 (2)
Other	1,194 (8)

Table 4. Post-procedure complications

Complication	SC only, *n* (%)	SC with dilatation, *n* (%)
Retention of fetoplacental material	228 (2.7)	129 (2)
Excessive bleeding	168 (2)	128 (2)
Infection	81 (< 1)	60 (< 1)
Perforation	None	7 (0.05)
Persistant fever	None	None
Unintended major surgery	None	None
Hemorrhage requiring transfusion	None	None

The rate of other complications was lower than 1% for infection, and about 2% for excessive bleeding. Major complications such as persistent fever, hemorrhage requiring transfusion and unintended major surgery were not observed. Maternal mortality was not recorded in any of the cases.

Discussion

Vacuum aspiration (SC) was introduced in the 1950s, and by 1980, it had caused legal abortion to become the most common surgical procedure performed in the US. About one-third of pregnancies are terminated by surgical abortion [1].

In a previous study of surgical abortion, it was found that 14.4% of patients had one, 24% had two and 0.2% had more than three legal abortions previously [2]. In our study, the corresponding figures were found to be extremely high; 40% of our patients had one; 45% had two to four and 5% had at least five legal abortions. These high figures may be attributed to the fact that surgical abortion is highly preferred by Turkish women in subsequent pregnancies.

When the educational status of the subjects were studied, 74% were found to be either only elementary

school graduates or were illiterate. This result may reflect that lack of proper education underlies the inefficient usage of effective contraceptive methods.

In the literature, it has been reported that 50% of women who applied for surgical termination of pregnancy are younger than 25 years [2]. In our series, 51% were under 29 years of age at the time when legal abortion was performed, consistent with the results of other series.

Complications may occur after the performance of any method of pregnancy termination. In the literature, the reported incidence of uterine perforation ranges between 0.8 and 6.4 per 1,000 pregnancies [3,4]. The reported rate of perforation after surgical abortions was 1.7% in the United Kingdom [3], and 0.7% in the US [4,6]. In our study, the rate of perforation related to SC with dilatation was 0.05%, which is lower than the rates reported in the literature. The rate of major complications such as persistent fever, hemorrhage requiring transfusion and unintended major surgery ranges between 0.2% and 0.6%, and is also proportional to gestational week at termination [3]. However, no case of major complication was observed in this study. In several studies, it has been reported that the incidence of mortality after SC is about one in 100,000 patients [3,4]. Maternal mortality was not found in our series, being consistent with this very low figure.

It has been reported that a 60% increase has been observed in the incidence of major complications when surgical abortion is delayed from 7 to 10 weeks of gestational age. In our series, 87% of all surgical abortions were performed under 7–8 weeks of gestation. The low incidence of complications observed in this study may be attributed to this early intervention.

In the US, SC only comprises 83% of all legal abortions [5,6], while in our series, SC only was performed in 56.8%. This discrepancy may be explained by the choice of clinicians and the policy of public health care units [7].

It is noteworthy that when proper contraceptive methods are used, the rate of unwanted pregnancy is estimated to be 1–2%. In this study, we observed that 81% of the patient population had not used an efficient and modern method of contraception before surgical termination. In general, 31–36% of our reproductive aged population preferred traditional contraceptive methods, 35–44% preferred modern contraceptive methods and 13–17% did not use any contraceptive method [7].

However, when a brief family planning counseling session was given, the rate of using an efficient contraceptive method significantly increased to 92% after the surgical abortion. This result clearly demonstrates the efficacy of family planning counseling in preventing unwanted pregnancies.

In conclusion, clinicians concerned about health care and family planning for women, especially in developing countries, must expect to face increasing problems with the dilemma of abortion. This study points out that legal abortion is not a contraceptive method, but nevertheless, it is still accepted as a contraceptive method in Turkey. Most surgical abortions can be prevented by effective use of modern contraceptive methods. In this study, the importance of well-planned contraceptive counseling and education is emphasized. Better family planning counseling and education, and increased availability of modern contraceptive methods can greatly decrease the incidence of surgical abortions.

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